

Pattern Detectives

Find the rule, then keep each pattern going.

GRADE 2 • 2.PFA.1

2.PFA.1 "The student will describe, extend, create, and transfer repeating and increasing patterns (limited to addition of whole numbers) using various representations. Identify and describe repeating and increasing patterns..."

NAME _____

DATE _____

FIND THE RULE

A repeating pattern has a part that repeats in the same order. An increasing pattern adds the same amount each time. Find the rule, then use it to continue the pattern.

WORKED EXAMPLE

A sticker chart shows 12, 14, 16, 18 stickers in its rows. How many stickers would the next row show?

1. Start at 12 stickers.
2. Add 2: $12 + 2 = 14$.
3. Keep adding 2: 16, then 18.
4. Add 2 more: $18 + 2 = 20$.

Answer: 20 stickers

PRACTICE 5 problems

- 1** A bracelet pattern is red, yellow, red, yellow, __, __. Write the next colors.

ANSWER _____

- 2** A line of toy cars has 1, 3, 5, __ cars. How many cars come next? Tell the change.

ANSWER _____

- 3** A block pattern is red, red, blue, red, red, blue. Red means 1 and blue means 2. Write the number pattern.

ANSWER _____

- 4** A puppy earns 2 treats, then 4 treats, then 6 treats. Write the next two numbers.

ANSWER _____

- 5** A toy shelf uses this repeating rule: truck, ball, ball. Write a six-toy pattern that follows the rule.

ANSWER _____

APPLY IT Show your work

- 1** Nora makes a bracelet with this bead pattern: yellow, green, green, yellow, green, green. What are the next two bead colors?

WORK SPACE

ANSWER _____

- 2** In a game, Jalen earns 2 stars in the first round, 5 stars in the next round, and 8 stars in the next round. How many stars will Jalen earn in the next round?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

At an aquarium, a keeper gives 3 fish on one day, 7 fish the next day, 11 fish the next day, and 15 fish the next day. How many fish will the keeper give on the next day? Explain the rule.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A bracelet pattern is red, yellow, red, yellow, __, __. Write the next colors.	red, yellow
2	A line of toy cars has 1, 3, 5, __ cars. How many cars come next? Tell the change.	7 cars; add 2 cars each time
3	A block pattern is red, red, blue, red, red, blue. Red means 1 and blue means 2. Write the number pattern.	1, 1, 2, 1, 1, 2
4	A puppy earns 2 treats, then 4 treats, then 6 treats. Write the next two numbers.	8, 10
5	A toy shelf uses this repeating rule: truck, ball, ball. Write a six-toy pattern that follows the rule.	truck, ball, ball, truck, ball, ball

PART 2 • APPLY IT

1. **yellow, green** The pattern repeats yellow, green, green. After the shown beads, the pattern starts again with yellow, then green.
2. **11 stars** The number of stars increases by 3 each round. Add 3 to 8 to get 11.

CHALLENGE**19 fish; add 4 fish each day**

Accept color and object answers written in words or shown with clear matching pictures or symbols. For the challenge, accept any explanation that states the pattern increases by 4 each time.